

Gender differences in drivers' reported behaviors

International comparison based on ESRA2 data on 32 countries

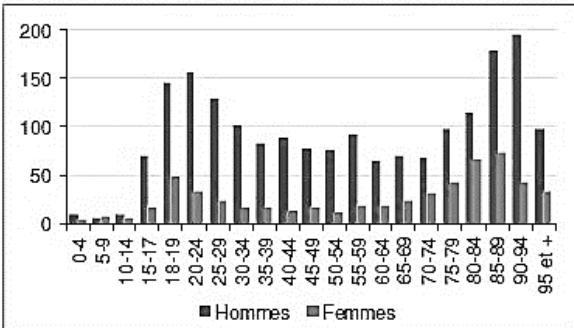
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Gender differences in road risks

Mortalité par classe d'âge et par sexe, par million de personnes de chaque classe d'âge et sexe



Exist at all ages
and in all regions of the world

3 time more men
than women die in
road traffic fatalities
worldwide

sex ratio in road
crashes reflects a
**difference in risk
exposure**

but **risk-taking and
traffic violations**
better explain gender
differences in fatal
road crashes than
mileage driven



Large number of studies
in developed countries

women anticipate
more negative and
serious **consequences**
and less pleasure in
risky behavior

**men perceive fewer
risks**, report a higher
probability of
engagement, rate
their driving skills
more positively, feel
safer behind the
wheel and use driving
to increase their
sense of self-efficacy
more than women

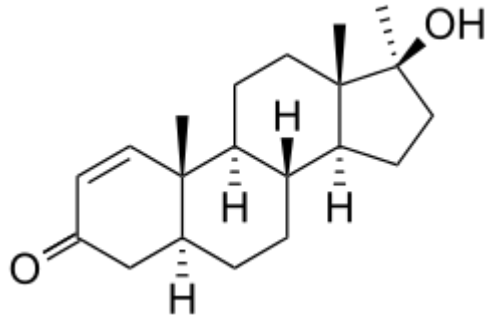


Possible explanations



Biological differences

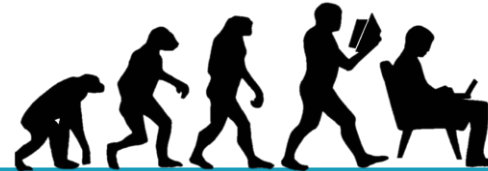
Males -> **androgens** -> sensation-seeking -> risk takings



Evolution

Male needs to **reproduce** their genes and **protect** the community + female need to **select the best genitor**

-> men's risk-taking, aggression, competition or infidelity



Social psychology


gender **stereotypes** and gender **roles**: social beliefs about what it means to be a man or a woman in a given society vary across **cultures**

male and female drivers' expected behaviors could also vary across countries and cultures


Crossroads of biological and social explanations

- biological and social origins - **innate and acquired** - of gender differences in risk-taking
- **male sex**: high level of androgens, a lower effect of alcohol and a slower neurocognitive development
- **masculine psychosocial gender role**: cultural, social and individual value to risk-taking, aggressiveness, competition and alcohol consumption; greater exposure in terms of driving frequency

Objectives



Objective: explore gender differences in crash risk behaviors reported by drivers in different geographical and cultural contexts



Hypothesis: **gender differences in risk behaviors among drivers are linked to culturally constructed gender roles and stereotypes, and vary according to cultural contexts.**

Method



ESRA project (E-Survey of Road users' Attitudes)

- **joint initiative** of road safety institutes, research organizations, public services and private sponsors, across 46 countries
- aiming at **collecting comparable (inter)national data** on road users' opinions, attitudes and behavior with respect to road traffic risks
- **ESRA1**: 3 waves between 2015 and 2017; almost 40,000 road users in 38 countries across 5 continents
- **ESRA2**: 32 countries involved in wave 1 (2018)

Questionnaire

- several dimensions of the **individual behavior and beliefs**
- several **road safety issues**
- All information on the questionnaire is available on www.esranet.eu

support for road safety policy measures

self-reported behaviour in traffic

acceptability of safe and unsafe traffic behaviour

attitudes, towards safe and unsafe traffic behaviour

subjective safety and risk perception

involvement in road crashes

enforcement of traffic laws

vehicle automation (new)

2 bonus questions (new)



Self-administered **questionnaire**

- online questionnaire
- **representative sample** of the national adult population in each country



Conducted in

- **32 countries** in November and December 2018:
- more than 35,000 road users
- **Six age groups**: 18-24y, 25-34y, 35-44y, 45-54y, 55-64y, 65y+

Participating countries

- **Europe** (Europe20): Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Poland, Portugal, Serbia, Slovenia, Spain, Sweden, Switzerland, United Kingdom;
- **America** (NorthAmerica2): Canada, USA;
- **Asia and Oceania** (AsiaOceania5): Australia, India, Israel, Japan, Republic of Korea;
- **Africa** (Africa5): Egypt, Kenya, Morocco, Nigeria, South Africa
- This **four regions** will be used to distinguish potential cultural differences.

Focus only on **participants reporting driving, at least a few days a month** during the past 12 months.

- 25,459 individuals: **13,540 males** (53.18% of the sample) and **11,919 females** (46.82% of the sample) equally distributed in the four regions studied



Procedure and sample



Analysis



Four crash-risk behaviors addressed

- driving under the influence of **alcohol**,
- excessive **speed** outside built-up areas,
- non-use of safety **belt**
- mobile **phone** use while driving

For each of these violations, participants are asked about

- their **behavior** in the past,
- the **social acceptability** of the behavior
- the **personal acceptability** of the behavior

Three-way analysis of variance (ANOVA)

- two **gender** groups (males and females),
- four **regional** groups (Europe²⁰, North America², Asia-Oceania⁵ and Africa⁵)
- six **age** groups (18-24, 25-34, 35-44, 45-54, 55-64, 65+).

Drinking & driving



males declared more drinking and driving than females **in all regions**, but frequency among males is lower and closer to that of females for AsiaOceania5 compared to the other regions.



males perceived higher social acceptability for drinking and driving than females in AsiaOceania5, Europe20 and NorthAmerica2 **but not in Africa5**, where both males and females declared high social acceptability of drinking and driving.



males perceived higher personal acceptability for drinking and driving than females **in all regions**. Personal acceptability for drinking and driving is lower for males in AsiaOceania5 than in the other regions



Excessive speed



males declared more speeding than females **in all regions**, with speeding more frequent in western regions (Europe20 and NorthAmerica2)



males perceived higher social acceptability for speeding than females in AsiaOceania5, Europe20 and NorthAmerica2 **but not in Africa5**, where both males and females declared low social acceptability of speeding



males perceived higher personal acceptability for speeding than females **in all regions**, but gender difference is smaller and personal acceptability for speeding is lower in Africa5



Not wearing seatbelt



males declared driving more often without a seatbelt than females in Africa5, Europe20 and NorthAmerica2, **but not in AsiaOceania5**, and that the frequency for not wearing a seatbelt is higher for both genders in Africa5



males perceived higher social **acceptability** for not wearing a seatbelt than females **in all regions**. Social acceptability for not wearing a seatbelt is higher in Africa5 than in AsiaOceania5, Europe20 and NorthAmerica2



males perceived higher **personal acceptability** for not wearing a seatbelt than females **in all regions**. Personal acceptability for not wearing a seatbelt is lower in AsiaOceania5. Gender difference is smaller in Africa5 and AsiaOceania5 than in western regions.



Talking on a hand-held phone while driving



males declared **more** often using a hand-held phone than females in Europe20, AsiaOceania5 and Africa5 **but not in NorthAmerica2**. Both genders declared higher frequency in Africa5 than in the three other regions



males declared **higher social acceptability** for talking on a hand-held phone while driving than females in AsiaOceania5, Europe20 and NorthAmerica2 **but not in Africa5**, where both genders declared very high social acceptability



males declared **higher personal acceptability** for making a phone call while driving than females in AsiaOceania5, Europe20 and NorthAmerica2, **but not in Africa5**. Personal acceptability is higher in Africa5 and NorthAmerica2 than in AsiaOceania5 and Europe20



Discussion



Objective: analyze the gender differences variation in crash risk behaviors in different geographical and cultural contexts, using the ESRA2_2018 data



Gender differences

- **Vary by region**
 - Gender differences **are socially constructed**, according to cultural values
- Higher levels of violation and acceptability for **men in all regions**
 - Gender differences are **also partly common across cultures**
- Double risk factor among males
 - **Biological sex AND social and cultural gender**



Speed violation

- Behavior the most reported and the most acceptable (both socially and personally)
- By all male groups in all regions, but also by female groups except for Africa5
- Speeding appears to be a **widespread and globally accepted violation for both men and women**

Conclusion

Gender differences vary across cultures but, **in all regions observed, men value crash risk behaviors more** than women do.

Speeding appears to be a widespread and globally **accepted violation** for both men and women.

Targeting men and the dangerousness of speeding in communication campaigns on **prevention**, and road safety **education**.

Understand why higher risk-taking among men appear to be **invariant across cultures**. Exploring the differences by **countries**.





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